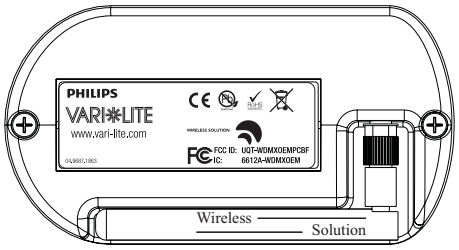
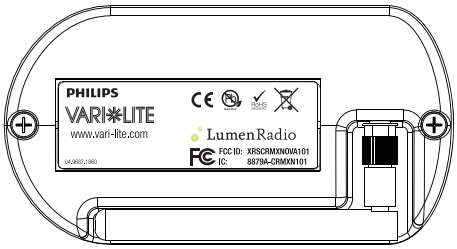
PHILIPS

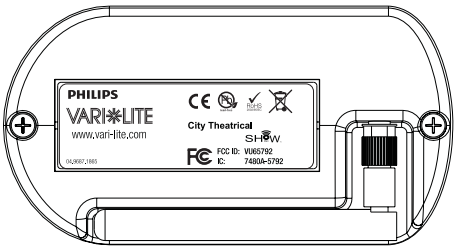
VARI*LITE



21.9687.1860
(Wireless Solution)



21.9687.1861
(Lumen Radio)



21.9687.1862
(City Theatrical)

Wireless DMX Receivers Installation & User's Manual

For use with VL440 Spot, VL770 Spot, VL880 Spot and VLX3 Wash Luminaires

PREFACE

1. Customer Service

Our Goal

At Philips Vari-Lite, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Philips Vari-Lite customer. Whether your needs are telephone troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

How to Reach Us

For assistance in your area, call the dealer from which your product was purchased.

or Contact an Authorized Dealer or Service Center

or Contact the Philips Vari-Lite Customer Service Department, 7am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548) or +1-214-647-7880

e-mail: entertainment.service@philips.com

Additional Resources

For additional resources and documentation, please visit our website at www.vari-lite.com and follow the Support link.

2. Additional Documentation

For more information regarding DMX512 systems, refer to the following document available from United States Institute for Theatre Technology, Inc. (USITT): Digital Data Transmission Standard for Dimmers & Controllers plus AMX 192 Analog Multiplex Data Transmission Standard for Dimmers & Controllers. (A copy of Recommended Practice for DMX512 is included.)

USITT
315 South Crouse Avenue, Suite 200
Syracuse, New York 13210-1844 USA
Phone: 800-938-7488 or +1-315-463-6463
Fax: 866-398-7488 or +1-315-463-6525
Web Site: www.usitt.org

Document Number: **02.9687.0100**
Version as of: **20 February 2013**

Wireless DMX Receivers Installation & User's Manual
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IMPORTANT INFORMATION

1. Warnings and Notices

When using electrical equipment, basic safety precautions should always be followed including the following:

a. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS**.

b. Do not use outdoors.

c. Do not use near gas or electric heaters.

d. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.

e. Do not use this equipment for other than intended use.

f. Refer service to qualified personnel.

SAVE THESE INSTRUCTIONS.

WARNING: You must have access to a main circuit breaker or other power disconnect device before installing any wiring. Be sure that power is disconnected by removing fuses or turning the main circuit breaker off before installation. Installing the device with power on may expose you to dangerous voltages and damage the device. A qualified electrician must perform this installation.

WARNING: Refer to National Electrical Code® and local codes for proper use specifications.

WARNING: This equipment is intended for use in accordance with the National Electric Code® and local regulations. It is also intended for installation in indoor applications only. Before any electrical work is performed, disconnect power at the circuit breaker or remove the fuse to avoid shock or damage to the control. It is recommended that a qualified electrician perform this installation.

2. FCC Compliance

The DMX wireless receivers described herein comply with Part 15 of the FCC Rules and are CE marked.

Operation is subject to the following two conditions:

1) this device may not cause harmful interference, and
2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! RF Exposure Warning for North America and Australia - To meet FCC and other national safety guidelines for RF exposure, the antenna for this device must be positioned to ensure a minimum separation distance of 20 centimeters (7.9 inches) from persons.

FCC Markings

Model	FCC ID	Version
21.9687.1860	UQT-WDMXOEMPCBF	Wireless Solution
21.9687.1861	XRSCRMXNOVA101	Lumen Radio
21.9687.1862	VU65792	City Theatrical

3. Industry Canada Compliance

- This Class B Digital apparatus meets all the requirements of the Canadian Interference Causing Equipment Regulations ICES 003.
- Cet appareil numerique de classe B respecte les exigences du reglement du Canada sur le materiel brouilleur NMB-003.

The device is certified to the requirements of RSS-210 for 2.4 GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

Industry Canada (IC) Markings

Model	IC Number	Version
21.9687.1860	6612A-WDMXOEM	Wireless Solution
21.9687.1861	8879A-CRMXN101	Lumen Radio
21.9687.1862	7480A-5972	City Theatrical

4. CE Marking

The DMX wireless receivers described herein are CE marked and are designed to install and operate with the Philips VARI✳LITE luminaires described in this manual only.

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INTRODUCTION

1. About this Guide

The document provides installation and operation instructions for the following products:

- **21.9687.1860, Wireless Solution W-DMX Wireless DMX512 Receiver, Black**
- **21.9687.1861, Lumen Radio Wireless DMX512 Receiver, Black**
- **21.9687.1862, City Theatrical SHoW DMX DMX512 Receiver, Black**

Please read all instructions before using these products. *Retain this manual for future reference*.

2. Product Description

The wireless DMX receivers are used to connect to VL440 Spot, VL770 Spot, VL880 Spot or VLX3 Wash Luminaires to allow wireless DMX512 communications and control. These receivers are offered in three wireless standards:

- **Wireless Solution W-DMX**
- **Lumen Radio Wireless DMX**
- **City Theatrical SHoW DMX**

Each wireless DMX receiver installs directly on to, and is powered by, the luminaire.

3. Wireless DMX Receiver Features

Refer to **Figure 1** for the features of the wireless DMX receiver. Note, each receiver has same physical features.

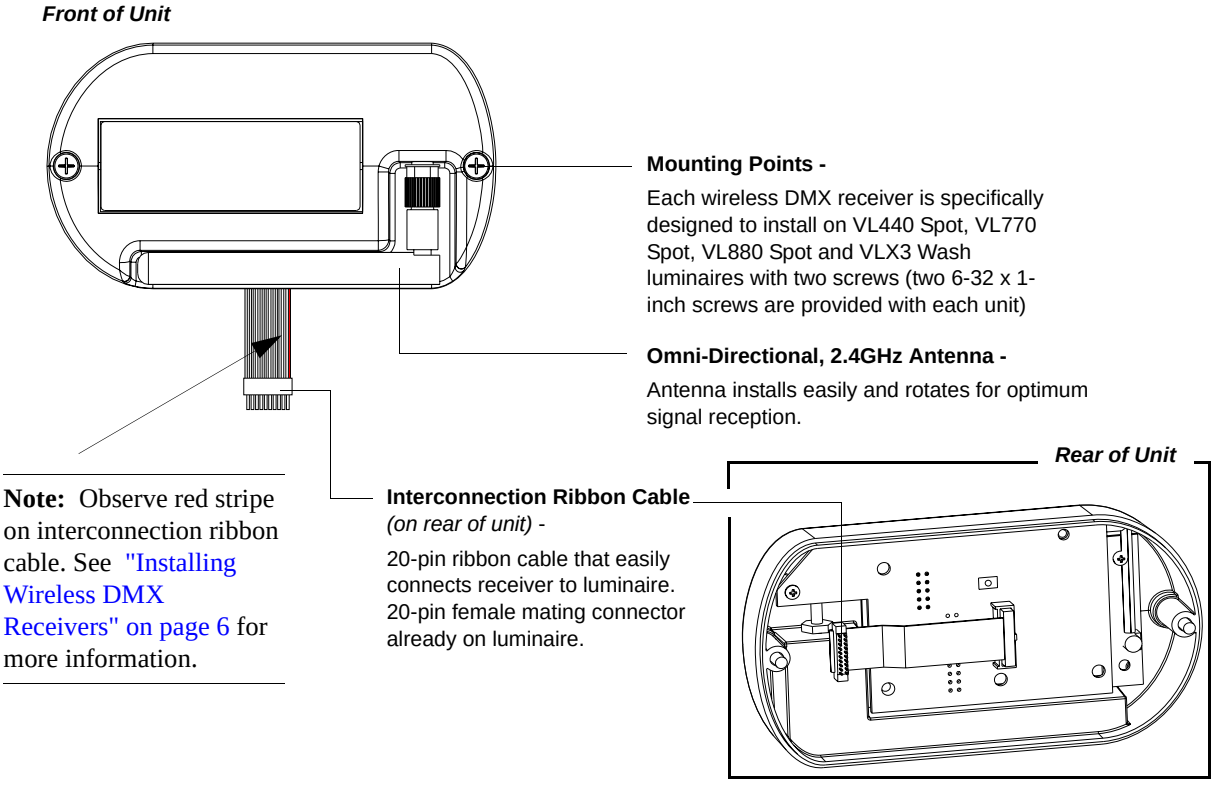

Front of Unit
Mounting Points -
Each wireless DMX receiver is specifically designed to install on VL440 Spot, VL770 Spot, VL880 Spot and VLX3 Wash luminaires with two screws (two 6-32 x 1-inch screws are provided with each unit)
Omni-Directional, 2.4GHz Antenna -
Antenna installs easily and rotates for optimum signal reception.
Rear of Unit
Note: Observe red stripe on interconnection ribbon cable. See "Installing Wireless DMX Receivers" on page 6 for more information.
Interconnection Ribbon Cable
(on rear of unit) -
20-pin ribbon cable that easily connects receiver to luminaire. 20-pin female mating connector already on luminaire.

Figure 1: Wireless DMX Receiver Features

WIRELESS DMX RECEIVER INSTALLATION

1. Installing Wireless DMX Receivers

To install on a wireless DMX receiver on a VL440, VL770, VL880 spot or VLX3 wash luminaires:

WARNING! Before proceeding, all power must be remove from luminaire.

Note: The fixture(s) must have the following software version (or later) installed - For VL440/770/880 Spots: 08.08.12 / For VLX3 Wash: 06.28.12. Software downloads are available from the Support Section of the Vari-Lite web site at www.vari-lite.com.

Step 1. Unpack unit and make sure all parts are present.

Step 2. If antenna is not installed, install antenna.

CAUTION: In next step, do not twist ribbon cable. The RED stripe on ribbon cable should be oriented as shown in **Figure 2**.

Step 3. At rear of receiver, connect 20-pin ribbon cable (provided with unit) to 20-pin female header connector on luminaire. Take care to ensure that the pins are properly aligned before seating connector.

Step 4. Position receiver over luminaire mounting position as shown in **Figure 2**. Make sure ribbon cable is completely encased in receiver housing before securing to luminaire. Do not pinch ribbon cable.

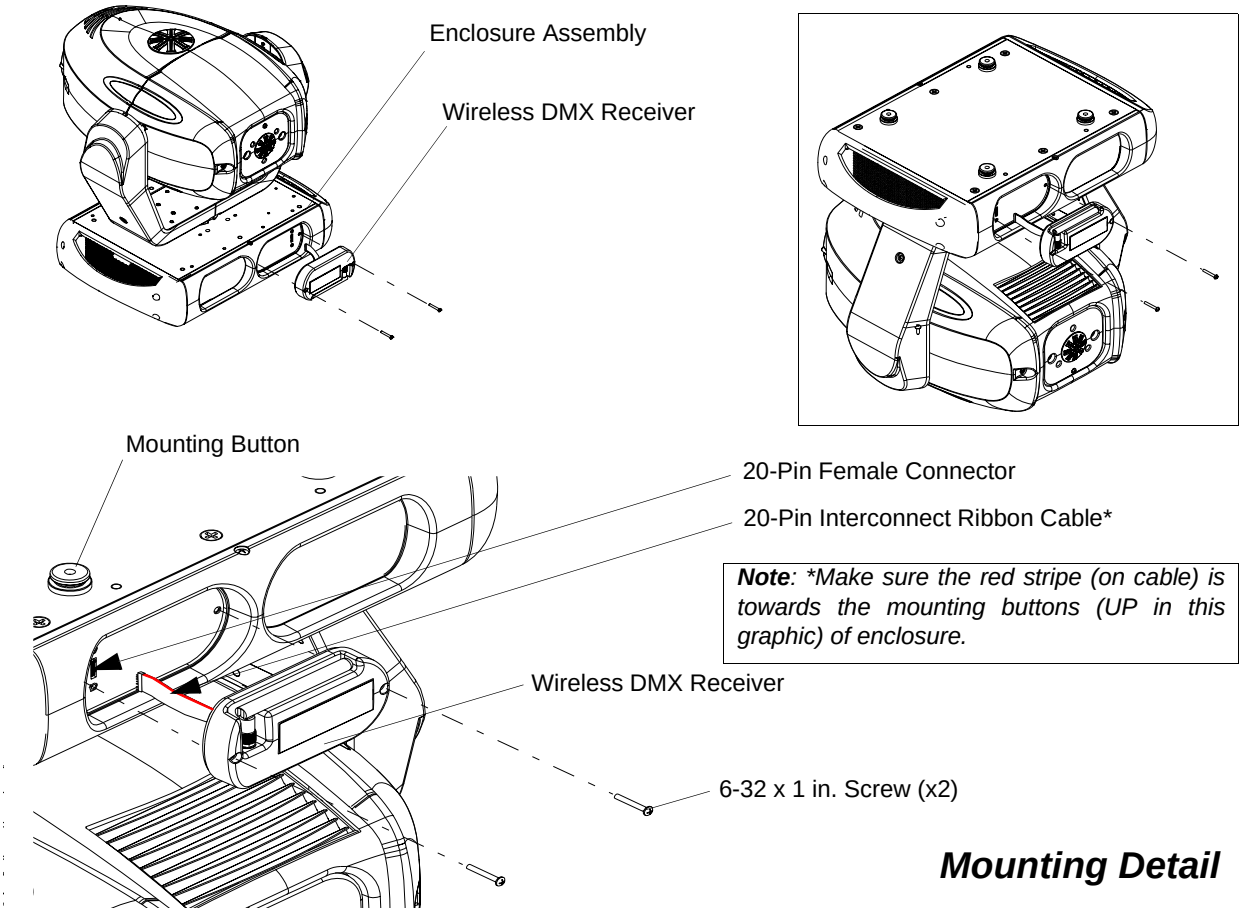
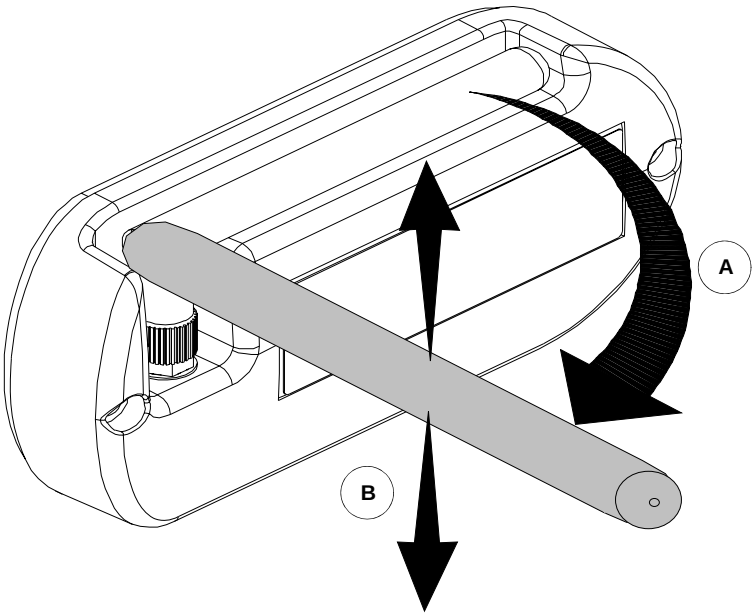

Enclosure Assembly
Wireless DMX Receiver
Mounting Button
20-Pin Female Connector
20-Pin Interconnect Ribbon Cable*
Note: *Make sure the red stripe (on cable) is towards the mounting buttons (UP in this graphic) of enclosure.
Wireless DMX Receiver
6-32 x 1 in. Screw (x2)
Mounting Detail

Figure 2: Wireless DMX Receiver Installation

Step 5. Install receiver unit by inserting two 6-32 x 1 inch screws (provided with receiver) through holes in receiver housing into luminaire. Hand-tighten screws. Do not over tighten!

Step 6. As shown in **Figure 3**, (A) rotate antenna from unit out and (B) up / down to receive communication signals from transmitter. Then the antenna can be positioned desired.



CAUTION: Be sure to rotate antenna into unit (stowed position) before placing fixture in a road case or box.

Figure 3: Wireless DMX Receiver Antenna

Step 7. Once installation is complete, proceed to "WIRELESS DMX RECEIVER OPERATION" on page 8 for configuration instructions.

WIRELESS DMX RECEIVER OPERATION

1. Configuring the Luminaire to Operate with Receiver

To enable wireless DMX communications:

Step 1. Install unit according to instructions contained in "WIRELESS DMX RECEIVER INSTALLATION" on page 6.

Step 2. Power on luminaire.

Step 3. At luminaire display, enable luminaire to operate with wireless DMX receiver as follows:

a. Press [Menu]

b. Press [Up] / [Down] arrows until DMX appears. Press [Enter].

c. Use [Up] / [Down] arrows until Wireless? appears.

d. Use [Up] / [Down] arrows to select Yes or No. Press [Enter] to select.

Step 4. Receiver is ready to connect to a wireless DMX transmitter. *Refer to transmitter manual for signal assigning/connecting to transmitter and DMX512 signal set up.*

2. LCD Display - Status / Message Screens

Linking Screen

As illustrated in **Figure 4**, the display will show LINKING under the DMX address - in the DMX address screen - when the unit is trying to established a connection with a wireless DMX transmitter.

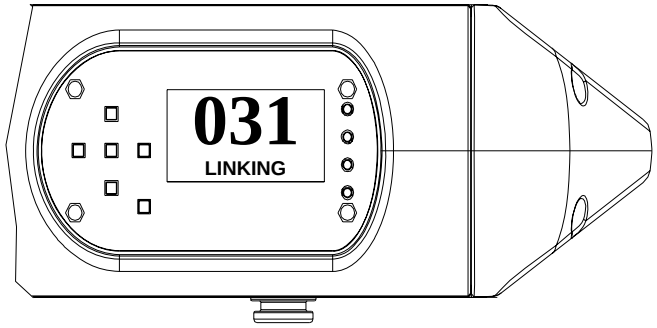
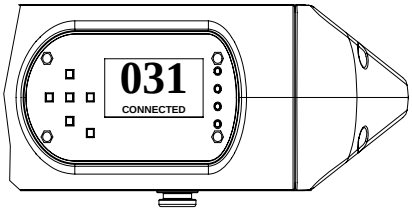


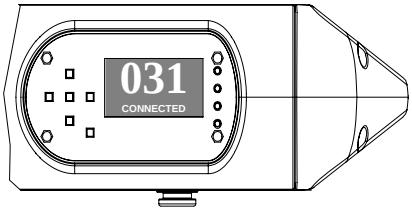
Figure 4: LCD Display - Linking Screen

Connected Screens

Once linked to a wireless transmitter, the display will state CONNECTED. There are two versions of this screen and their meanings as described in **Figure 5**.



When Connected *is displayed with a normal background, the wireless connection is established between transmitter and receiver, but DMX signal is not detected / present.*



When Connected *is displayed with an inverted (or dark) background, the wireless connection is established between transmitter and receiver, and a DMX signal is detected / present.*

Figure 5: LCD Display - Connected Screens

Note: Once the wireless DMX device is linked to its transmitter, other fixtures or devices (without a wireless DMX device) can be connected via hard wire to the DMX output of the luminaire to receive DMX commands.

No Status Screen

When the display shows NO STATUS under the DMX address, as shown in **Figure 6**, the unit is checking for any available connections. Note, this message will only display for a short period.

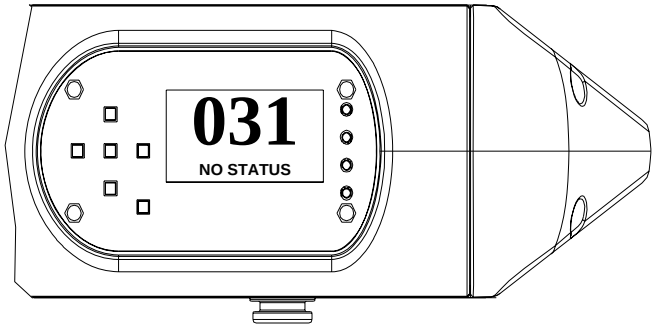


Figure 6: LCD Display - No Status Screen

Disconnected Screen

As shown in **Figure 6**, the display will show DISCONNECTED under the DMX address - in the DMX address screen - when the unit is not connected with a wireless DMX transmitter.

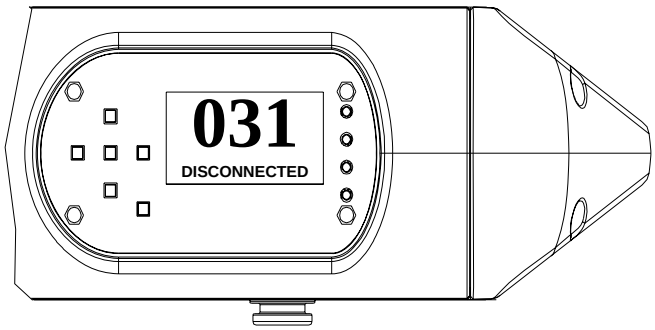


Figure 7: LCD Display - Disconnected Screen

Note: If none of the preceding status (messages) exists under the DMX address, the fixture is not enabled for a wireless DMX receiver. Refer to "Configuring the Luminaire to Operate with Receiver" on page 8 to enable fixture.

3. Unlinking Receiver from Connected Transmitter

Wireless Solution / Lumen Radio Wireless DMX Receivers

Note: This section is only applicable to 21.9687.1860, Wireless Solution wireless and 21.9687.1861, Lumen Radio wireless DMX receivers. For 21.9687.1862, City Theatrical SHoW DMX models, refer to "City Theatrical SHoW DMX Wireless DMX Receivers" on page 10.

To unlink (disconnect) receiver (21.9687.1860 or 21.9687.1861 models only) from its connected transmitter:

Step 1. Press [Menu]

Step 2. Press [Up] / [Down] arrows until DMX appears. Press [Enter].

Step 3. Use [Up] / [Down] arrows to select Unlink/Reset Receiver. Press [Enter] to unlink.

City Theatrical SHoW DMX Wireless DMX Receivers

Note: This section is only applicable to 21.9687.1862, City Theatrical SHoW DMX wireless DMX receivers. For 21.9687.1860, Wireless Solution wireless and 21.9687.1861, Lumen Radio wireless DMX receivers, refer to "Wireless Solution / Lumen Radio Wireless DMX Receivers" on page 9.

Returning a 21.9687.1862 receiver to a Known ShowID (ShowID 201):

Step 1. Press [Menu]

Step 2. Press [Up] / [Down] arrows until DMX appears. Press [Enter].

Step 3. Use [Up] / [Down] arrows to select Unlink/Reset Receiver. Press [Enter] to Reset.

The Receiver is now set to ShowID 201 and will connect to a transmitter with the same ShowID. Refer to City Theatrical documentation on changing the Receiver's setting using RDM, through the Transmitter.

4. Troubleshooting

Table 1 below shows some common issues that may be encountered with the receivers and remedies for these issues.

Table 1: Troubleshooting Guide

Symptom	Description	Possible Cause/Remedy
No wireless functions.	Receiver not connected properly.	• Check 20-pin ribbon cable between wireless DMX receiver and fixture. • There is a green LED indicator on the board near the cable connection that will illuminate ONLY when the connector is properly connected to the fixture and the unit is powered on. Refer to **Figure 8**. • Make sure fixture is set to Wireless DMX -> Yes (enabled).
Fixture states connected, but does not respond to DMX.	No DMX connection - the wireless transmitter is not sending DMX.	• Check ALL DMX connections and wiring (from DMX source to wireless transmitter). • The DMX Address screen will invert to a black background when DMX is received via a wireless connection.
No wireless DMX connection.	Fixture will not link with a wireless DMX transmitter.	• Check and make sure wireless DMX transmitter is functioning. • Ensure the wireless receiver model matches the transmitter (same type, brand).
Fixture does not respond to DMX input from XLR connection.	Wireless mode is ON (enabled).	• Turn off (disable) Wireless mode to enable the fixture to accept and respond to hard-wire XLR DMX input.

For additional assistance, please refer to "Customer Service" on page 1.

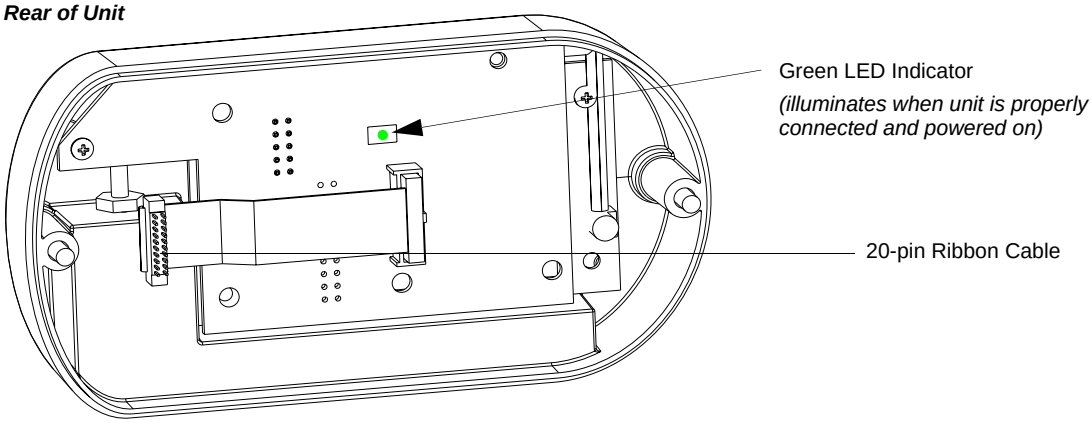


Figure 8: Green LED Indicator (Rear of Wireless Receiver)

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Express yourself.

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